

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



10/529309

(43) International Publication Date
8 April 2004 (08.04.2004)

PCT

(10) International Publication Number
WO 2004/029604 A2

(51) International Patent Classification⁷: G01N 27/00

(21) International Application Number:
PCT/CA2003/001444

(22) International Filing Date:
23 September 2003 (23.09.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/413,162 25 September 2002 (25.09.2002) US

(71) Applicant (for all designated States except US): IONALYTICS CORPORATION [CA/CA]; Building M-50 IPF, 1200 Montreal Road, Ottawa, Ontario K1A 0R6 (CA).

(72) Inventors; and

(75) Inventors/Applicants (for US only): POTVIN, Lucien

[CA/CA]; 29 Goulding Crescent, Kanata, Ontario K2K 2N9 (CA). BARIBEAU, Yves [CA/CA]; 1124 St. Emmanuel Terrace, Orleans, Ontario K1C 2J7 (CA).

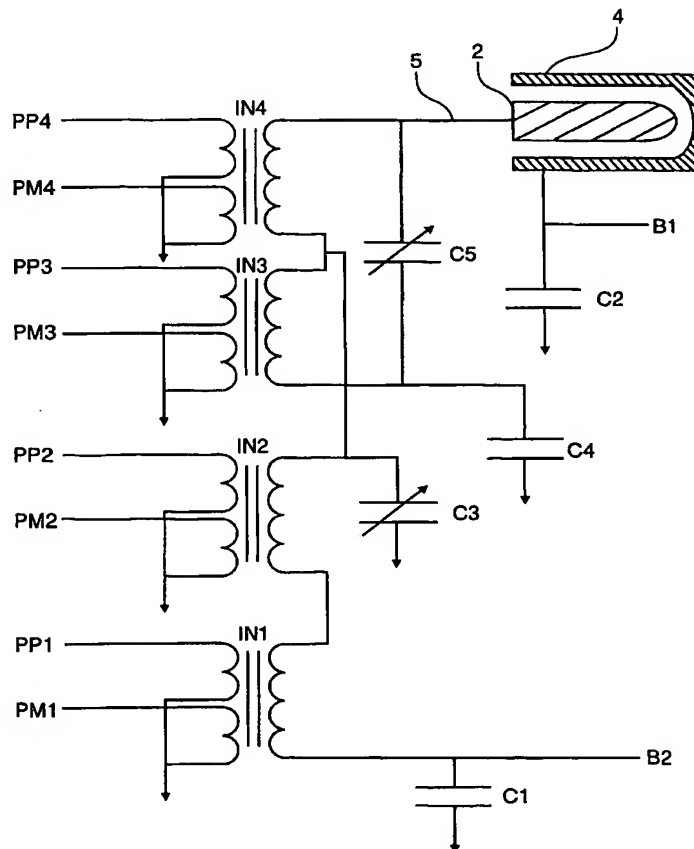
(74) Agent: FREEDMAN, Gordon; Freedman & Associates, 117 Centrepoin Drive, Suite 350, Nepean, Ontario K2G 5X3 (CA).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

[Continued on next page]

(54) Title: WAVEFORM GENERATOR ELECTRONICS BASED ON TUNED LC CIRCUITS



(57) Abstract: Disclosed is an apparatus for generating a periodically varying electrical signal for creating a periodically varying electrical field between electrodes of an ion mobility spectrometer. The apparatus includes an output port. A first tuned circuit is provided for being electrically coupled to an external power source and for, in isolation, providing a first periodically varying electrical signal having a first frequency. The first tuned circuit is coupled to the output port for providing an output electrical signal having a component at the first frequency thereto. A second tuned circuit is provided for being electrically coupled to an external power source and for providing a second periodically varying electrical signal having a second frequency different from the first frequency. The second tuned circuit is coupled to the first tuned circuit for varying the output electrical signal about the first periodically varying electrical signal.

WO 2004/029604 A2